DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-021670
Date Inspected: 07-Mar-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1900
OSM Departure Time: 700
Location: Shanghai, China

CWI Name:	See Below			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG

Summary of Items Observed:
CWI Inspector: Mr. Bao Qian
CWI Inspectors: Mr. Bao Qian, Mr. Cui Zheng Hua

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Bay 14

Segment 14E

This QA Inspector observed ZPMC welder Mr. Wang Zhengbin, stencil 216086 used shielded metal arc welding procedure WPS-B-P-2213-TC-U4B-FCM-1 to make OBG segment 13AE weld SEG3007P-258. This QA Inspector observed a welding current of approximately 140 amps and Mr. Wang Zhengbin appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder stencil 037749 used shielded metal arc welding procedure WPS-B-P-2214-B-U2-FCM-1 to make OBG segment 13AE weld DP3079-001-015. This QA Inspector observed a welding current of approximately 180 amps. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yuan Wensong, stencil 055491 used flux cored welding procedure WPS-B-T-2233-ESAB to make OBG segment 13AE weld SEG3007G-133. This QA Inspector measured a welding current of approximately 240 amps and 25.0 volts. This QA Inspector observed Mr. Yuan Wensong appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wu Wanyong stencil 050242 used flux cored welding procedure WPS-B-T-2232-ESAB to make OBG segment 13AE weld SEG3007L-040. This QA Inspector measured a welding current of approximately 270 amps, 25.0 volts and Mr. Wu Wanyong appeared to be certified to make his weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Kuai Wenshan, stencil 054013 used shielded metal arc welding procedure WPS-B-P-2212-B-U2-FCM-1 to make weld OBG segment 14E weld SEG3019AW-096. This QA Inspector measured a welding current of approximately 200 amps, base material was preheated with an electrical heater and Mr. Kuai Wenshan appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yang Yunfeng, stencil 215553 used shielded metal arc welding procedure specification WPS-B-P-2212-B-U2-FCM-1 to make OBG segment 14E weld SEG3019AW-100. This QA Inspector observed a welding current of approximately 240 amps, the base materials appear to have been preheated with electric heating elements and Mr. Yang Yunfeng appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhao Guanglin, stencil 044779 used shielded metal arc welding procedure specification WPS-2213-TC-U4B-FCM-1 to make OBG segment 14E welds SEG3019Q-124 and 126. This QA Inspector observed a welding current of approximately 170 amps, the base materials were preheated with a torch and Mr. Zhao Guanglin appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

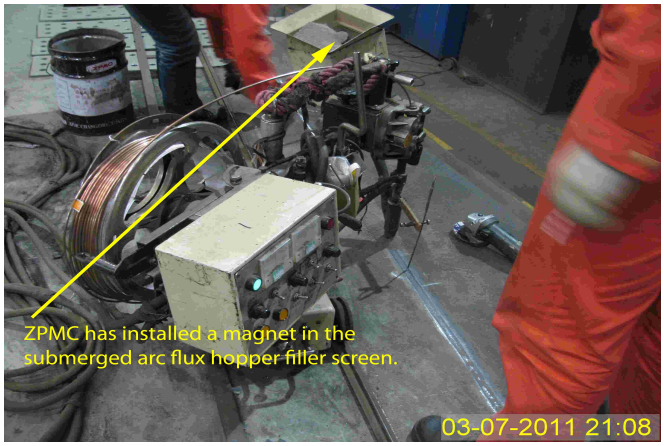
This QA Inspector observed ZPMC welder stencil 050969 used shielded metal arc welding procedure specification WPS-2213-TC-U4B-FCM-1 to make OBG segment 14E weld SEG3019Q-124 and 126. This QA Inspector observed a welding current of approximately 160 amps and the base materials were preheated with a torch. Items observed on this date appeared to generally comply with applicable contract documents.

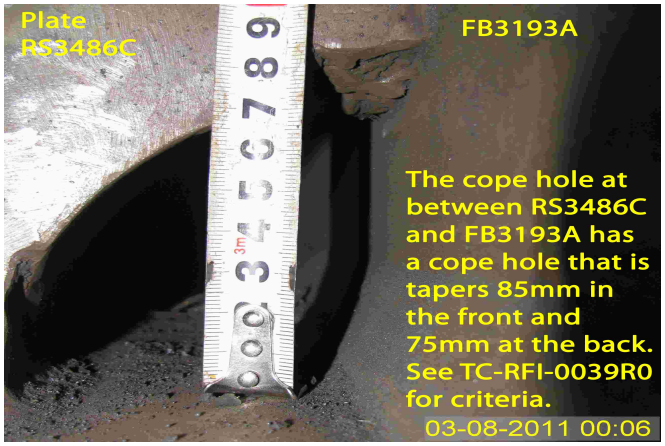
This QA Inspector observed ZPMC welder Mr. Sun Guzuo, stencil 058100 used submerged arc welding procedure WPS-B-T-2221-B-L2C-S-2 to make segment 14E groove weld SEG3019*-011. This QA Inspector observed a welding current of approximately 590 amps and 33.0 volts. This QA Inspector confirmed that Mr. Sun Guzuo appeared to be certified to make this weld and electric heaters had been used to preheat the base material prior to welding. This QA Inspector observed the submerged arc welding machine flux hopper flux screen did not have a magnet located in the top screen as required by AWS D1.5 section 4.8.4 which states: “SAW flux that has not been melted during the welding operation may be reused after recovery by vacuuming, use of catch pans, sweeping from weldment surfaces or other means. Recovered flux shall be passed through an appropriate screen and over a suitable magnet to remove unwanted particles and materials before being returned to the flux supply

system. Flux that is not reclaimed from weldment surfaces within one hour of being deposited on the weld shall be dried before being used as provided in 4.8.3." This QA Inspector informed ABF CWI Mr. Cui Zheng Hua that the welding machine flux hopper filler screen had no magnet. ZPMC welder Mr. Sun Guzuo informed this QA Inspector that the flux hopper magnet had accidently been deposited in the waste bucket when the other debris that had accumulated on the flux hopper screen had been removed. Mr. Sun Guzuo retrieved magnet from the bucket and he installed the magnet in the flux hopper top filler screen. Following installation of the magnet, items observed on this date appeared to generally comply with applicable contract documents. See the photographs below for additional information.

Segment 13AW

This QA Inspector performed random document review of "Team China request for information (TC-RFI)" document #TC-RFI-0039R0. This RFI addresses various cope holes in OBG 13AW and near panel point 119. This QA Inspector performed random visual inspections of the plates listed in the RFI and observed plate RS3097A between plate RS3097D and RS3097C has a cope holes that is tapered and one side of the cope hole appears to have a vertical dimension of approximately 85 mm in the front and 75 mm at the back. This QA Inspector took random photographs of some of these plates and copies of the photographs and other related information have been placed in "TC-RFI Documentation" folder located on Team China common Z drive pending engineering review. See the photographs below for additional information.





WELDING INSPECTION REPORT

(Continued Page 4 of 4)

Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact James Devey +8615000026784, who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Riley,Ken	QA Reviewer